

**To:** Oberley, Gregory[Oberley.Gregory@epa.gov]  
**From:** Chavez, Luke  
**Sent:** Fri 2/15/2013 5:13:05 PM  
**Subject:** Fw: Pavillion Groundwater Sampling Plan  
Luke Chavez-Pavillion.docx

FYI

**Luke D. Chavez**, Environmental Engineer  
Exercise Coordinator - Emergency Response and Preparedness (ERP)  
US EPA Region 8  
1595 Wynkoop St.  
Denver, CO 80202  
303.312.6512 office  
720.320.6250 cell

----- Forwarded by Luke Chavez/R8/USEPA/US on 02/15/2013 10:12 AM -----

**From:** <sbabits@wyoming.com>  
**To:** Luke Chavez/EPR/R8/USEPA/US@EPA  
**Cc:** Gregory Phillips/R8/USEPA/US@EPA, <daragon@wyoming.com>  
**Date:** 02/19/2009 05:06 PM  
**Subject:** Pavillion Groundwater Sampling Plan

Luke,

I have looked at the EPA sampling plan and have a few comments, see below. I have also attached a memo from Don Aragon with additional comments from the WREQC staff and consultants.

1. There may be other potential sources of domestic well contamination besides the oil and gas activities targeted by the workplan. I saw pesticides/PCBs in the list of analytes, but I would add some others. Nitrates is a good indicator of contamination from surface sources due to poor well seal. All groundwater samples should be analyzed for major ions (calcium, carbonate, chloride, sulfide, etc.) and TDS, so that samples from different wells and aquifers can be characterized and compared. Also, there are many types of bacterial contamination that can cause foul odors and taste in drinking water. Also, the WY DEQ is investigating groundwater contamination from old production pits.
2. The proposed background sample from the pavillion municipal well may be from a different aquifer and may or may not be representative of the background (i.e., pre-contaminated) water quality in specific domestic wells.
3. I am not familiar with the SRB by BART analysis, but does this only detect SRBs? and if so there could be other types of bacterial contamination present causing odor/taste problems.

Thanks for your consideration of these comments.

Steve Babits, P.G.  
WREQC Groundwater Consultant